

SPACE CARVING FOR MEASUREMENT OF HIGH- CURVATURE AREAS ON A MECHANICAL PART

Abstract of Disclosure

A method of determining the leading edge (E) of a turbine blade or airfoil (P). The object is mounted in a desired position and backlit using a light source (S). The object and its leading edge are viewed using one or more cameras (I) which are positioned on the opposite side of the part. When illuminated, the object blocks a portion of the light from the source and the occluded portion of the light defines an outline (T) of the object including its leading edge. An image of the object is obtained and the part is then moved to other positions at which additional images are obtained. The images are processed using a space carving algorithm to ascertain the contour of the leading edge of the object. This allows accurate measurements of the leading edge to be made for using in determining acceptability of the part.

Figures